

15 delivering reactant to the substance on the substrate to form the
reaction product, and a reaction product sampling passage
extending from the recess adapted for connection to the product
analyzer for transporting at least the portion of the reaction
product to the product analyzer.

Please cancel claim 43 without prejudice to its
patentability.

14 (amended). A probe as set forth in claim 12 wherein the
resiliently compliant element comprises a bellows.

24 (amended). A sampling probe for delivering a reactant to
a substance deposited on a substrate to form a reaction product
and for transporting the reaction product to a product analyzer
for analysis, the probe comprising a body, a tip positionable
over the substance on the substrate, a resiliently compliant
element positioned between the tip and the body for permitting
the tip to move relative to the body, a recess in the tip sized
and shaped for receiving at least a portion of the reaction
product, a reaction product sampling passage extending from the
recess adapted for connection to the product analyzer for
transporting at least a portion of the reaction product to the
product analyzer, and a reactant delivery passage extending to an
outlet positioned at the tip for delivering reactant to the
substance on the substrate to form the reaction product.

31 (amended). A sampling probe for delivering a reactant to
a substance deposited on a substrate to form a reaction product
and for transporting the reaction product to a product analyzer
for analysis, the probe comprising a body, a tip connected to the
body and engageable with the substrate, a recess in the tip sized
and shaped for receiving at least a portion of the reaction
product, a reaction product sampling passage extending from the
recess adapted for connection to the product analyzer for
transporting at least a portion of the reaction product to the

10 product analyzer, and a reactant delivery passage extending to an
outlet positioned at the tip for delivering reactant to the
substance on the substrate to form the reaction product, wherein
the tip includes at least one opening permitting reactants to
flow into the recess when the tip engages the substrate.

34 (amended). A probe as set forth in claim 31 further
comprising a vent passage extending from an inlet positioned on
the body adjacent the tip for removing reactant.

Please add the following claims:

50. A probe as set forth in claim 31 wherein said at least
one opening is a groove formed in the tip.

51. A sampling probe for delivering reactants to a
substance deposited on a substrate to form a reaction product and
for transporting the reaction product to a product analyzer for
analysis, the probe comprising a tip positionable over the
substance on the substrate, a mixing chamber positioned inside
the probe for mixing reactants therein, a plurality of reactant
source passages extending through the probe from a plurality of
reactant sources to the mixing chamber for delivering reactants
to the mixing chamber, a reactant delivery passage extending from
the mixing chamber to an outlet positioned at the tip for
delivering reactants from the mixing chamber to the substance on
the substrate thereby forming the reaction product, a lower
recess in the tip sized and shaped for receiving at least a
portion of the reaction product, and a reaction product sampling
passage extending from the recess adapted for connection to the
product analyzer for transporting at least the portion of the
reaction product to the product analyzer.

52. A probe as set forth in claim 51 wherein the probe
includes a body having an inner cavity and a plug positioned in

the inner cavity to form the mixing chamber above an upper end face of the plug.

53. A probe as set forth in claim 52 wherein the reactant delivery passage extends through said plug.

54. A probe as set forth in claim 53 further comprising a cover mounted on the body covering the plug and forming an upper recess between the cover and a lower end face of the plug, and an aperture extending through the cover to permit reactants to pass through the cover to the substance, wherein said aperture is offset from the reactant delivery passage in the plug to promote mixing of the reactants in the upper recess.

55. A probe as set forth in claim 54 further comprising a vent passage extending from an annular recess positioned outside the lower recess of the tip for removing reactant from an area outside the lower recess.

56. A probe as set forth in claim 55 further comprising a barrier surrounding the tip and disposed outside the annular recess, the barrier inhibiting contamination of adjacent substances on the substrate.

57. A sampling probe for delivering reactants to a substance deposited on a substrate to form a reaction product and for transporting the reaction product to a product analyzer for analysis, the probe comprising a tip positionable over the substance on the substrate, a mixing chamber positioned inside the probe for mixing reactant therein, at least one reactant source passage extending through the probe from at least one reactant source to the mixing chamber for delivering reactant to the mixing chamber, a reactant delivery passage extending from the mixing chamber to an outlet positioned at the tip for delivering reactant from the mixing chamber to the substance on the substrate thereby forming the reaction product, a recess in

the tip sized and shaped for receiving at least a portion of the
reaction product, a reaction product sampling passage extending
15 from the recess adapted for connection to the product analyzer
for transporting at least the portion of the reaction product to
the product analyzer, and an overflow vent passage in fluid
communication with the mixing chamber for removing excess
reactant from the mixing chamber.
